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20 October 1955

MEMORANDUM FOR: The Record

SUBJECT : Military Caching Program in Alaska

On 29 September 1955, the undersigned visited the Air Force Office of Special Investigations to discuss the military caching program in Alaska. The program was reviewed with Maj. William Mann, Director of Special Investigations, AFOSI, Maj. William B. Boyd and Lt. Col. Roy T. Tucker,

It should first be pointed out that the aim of the Air Force program is to attain and maintain a state of operational readiness in Alaska, whereas the intended purpose of a TSS program would be testing of burial materials and methods. Any resulting technical information on burial materials is more or less a by-product of the program. Thus we can obtain little help from the Air Force R & D-wise. But we can take advantage of what they have learned of the physical problems associated with caching in a very cold climate.

Air Force caches are large--an estimate would be over 2,000 pounds. They are of two types, above and below ground. The underground caches are usually dug in a hill side to aid drainage. A wooden room, made of air-dropped prefabricated parts, is built inside the hole, and is lined with tarpaper. Early underground caches were equipped with drainage tile, but this proved worthless as the tile would fill with water and freeze shut, causing water to back up in the room.

Digging an underground cache in the arctic permafrost region is extremely difficult. Permafrost is struck at about 18 inches. In the summer-time the temperature may rise in the 90's and thaw the surface of the ground. Thus, while a hole has to be chipped out of the ground with picks, the diggers may be standing in a few inches of mud as they swing away.

Above-ground caches resemble small log cabins. Made of timbers hand-hewn on the spot, they keep snow and excess moisture away from the stored goods. The doors are padlocked. This is not so much a measure taken against inquisitive people as it is against inquisitive bears. Hungry bears can go thru heavy barriers if they think there may be food on the other side.

Above-ground caches are practical only in the timbered regions. The arctic tundra has only brush and moss as vegetation, no trees at all. Some above-ground caches are placed ten and twenty feet off the ground by locating them on topped tree trunks. This is done in areas of heavy winter snows.

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Marking underground caches presents a big problem, if it is desired to conceal the cache against unwitting personnel. The Air Force uses large-scale maps showing considerable detail of the immediate area around the cache site. Sometimes they lay out rocks in a certain pattern, but this system does not work in areas of heavy snow falls. A tall metal pole is erected over some caches. This pole can be topped with a small relector sensitive only to infra-red rays. An infra red flash gun is used to relocate the cache. This system does not provide a positive concealment as the pole can be spotted under certain conditions from the ground and from the air.

Practically all goods cached by the Air Force are in thin-walled, tin plated steel containers. There are different sizes to accomodate the various items. The most popular size is approximately 10 x 16 x 25 inches deep. It is sealed like an ordinary tin can. Cost is \$10 per unit. These cans are sprayed with a rubber coating for added corrosion protection then wrapped in paper because the rubber has low abrasion resistance.

The boxes were made at the Ogden Air Material Command Area. All packing was done there. Some items were wrapped in aluminum foil and crated.

The steel containers and the crated foil wraps were the only two types of packaging employed. Air Force interest is now in the replacement and maintenance of supplies at the cache sites.

In the miscellany column:

C-rations in tin cans were OK after a year. (Repeated freezing and thawing made no difference)

"Hot-Packs" (self-heating food in tin cans) are not worthwhile. Too heavy and bulky.

Food and clothing must be considered in an Alaskan burial program.

Graphite preservative was used as well as cosmoline as a gun preservative. Ordinary lubricants become practically solids.

Lots of animal trouble.. Bears are the biggest problem.

Other sources of information:

Dr. Washburn, Arctic Institute of Washington

Big Delta Laboratory in Fairbanks (Army)

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Engineering Division, TSS

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